## **Supplementary Data**

Table 2 Comparison of uptake and contrast in <sup>68</sup>Ga-PSMA-PET/CT and <sup>18</sup>F-fluoromethylcholine-PET/CT

SUV <sub>max</sub> in tumor suspicious lesions	significantly higher SUV <sub>max</sub> in <sup>68</sup> Ga-PSMA- PET/CT	significantly higher SUV <sub>max</sub> in <sup>18</sup> F-fluorcholine- PET/CT	without significant difference between <sup>58</sup> Ga- PSMA-PET/CT and <sup>18</sup> F- fluorcholine-PET/CT
Lymph node metastases (n=40)	n=38 (95%)	n=1 (2.5%)	n=1 (2.5%)
Bone metastases (n=23)	n=17 (73.9%)	n=6 (26.1%)	n=0
Local relapses (n=10)	n=6 (60%)	n=2 (20%)	n=2 (20%)
Soft tissue metastases (n=5)	n=2 (40%)	n=3 (60%)	n=0
Ratio between SUV <sub>max</sub> of tumor lesions and SUV <sub>max</sub> of background	significantly higher ratio in <sup>68</sup> Ga-PSMA- PET/CT	significantly higher ratio in <sup>18</sup> F-fluorcholine- PET/CT	without significant difference between <sup>68</sup> Ga- PSMA-PET/CT and <sup>18</sup> F- fluorcholine-PET/CT
Lymph node metastases (n=40)	n=40 (100%)	n=0	n=0
Bone metastases (n=23)	n=21 (91.3%)	n=2 (8.7)	n=0
Local relapses (n=10)	n=9 (90%)	n=0	n=1 (10%)
Soft tissue metastases (n=5)	n=3 (60%)	n=0	n=2 (40%)